

PATENT APPLICATION

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No: Q78089

Stephen KAMINSKI, et al.

Appln. No.: 10/699,687

Group Art Unit: 2617

Confirmation No.: 4929

Examiner: Nicholas T. LA

Filed: November 4, 2003

For: TELECOMMUNICATION METHOD SUPPORTING MULTIPLE AIR INTERFACES

SUBMISSION OF APPEAL BRIEF

MAIL STOP APPEAL BRIEF - PATENTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Submitted herewith please find an Appeal Brief. The statutory fee of \$500.00 is being charged to Deposit Account No. 19-4880 via EFS Payment Screen. The USPTO is also directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

/Kelly G. Hyndman 39,234/
Kelly G. Hyndman
Registration No. 39,234

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Date: April 13, 2007

PATENT APPLICATION

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No: Q78089

Stephen KAMINSKI, et al.

Appln. No.: 10/699,687

Group Art Unit: 2617

Confirmation No.: 4929

Examiner: Nicholas T. LA

Filed: November 4, 2003

For: TELECOMMUNICATION METHOD SUPPORTING MULTIPLE AIR INTERFACES

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

MAIL STOP APPEAL BRIEF - PATENTS

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellant submits the following:

Table of Contents

I. REAL PARTY IN INTEREST.....	2
II. RELATED APPEALS AND INTERFERENCES	3
III. STATUS OF CLAIMS.....	4
IV. STATUS OF AMENDMENTS.....	5
V. SUMMARY OF THE CLAIMED SUBJECT MATTER.....	6
VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL	9
VII. ARGUMENT.....	10
CLAIMS APPENDIX	17
EVIDENCE APPENDIX:	22
RELATED PROCEEDINGS APPENDIX.....	23

I. REAL PARTY IN INTEREST

Based on information supplied by the Appellant and to the best knowledge of the Appellant's legal representatives, the real party in interest is the assignee, Alcatel, by virtue of an Assignment executed on March 19, 2003 and recorded on November 11, 2003 at Reel 014673, Frame 0778.

II. RELATED APPEALS AND INTERFERENCES

To the best of their knowledge, there are no other related appeals or interferences known to Appellant, Appellant's legal representatives or the assignee that will directly affect or be directly affected by or have a bearing on the Board's decision in the instant Appeal.

III. STATUS OF CLAIMS

Claims 1-4, 7-10, 11-13 and 15 are rejected under 35 U.S.C. 103(a) as allegedly being unpatentable over Wood (U.S. Pat. No. 5,412,375) and further in view of Hsu et al. (U.S. Patent No. 6,169,898; hereinafter “Hsu”). Claims 5, 6 and 14 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Wood in view of Hsu, and further in view of Kallio (U.S. Pat. App. Pub. No. 2002/0147008). All the claims pending in the present application have been set forth in their entirety in the attached Appendix.

IV. STATUS OF AMENDMENTS

There are no outstanding, non-entered amendments of the claims in the instant application.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention relates to the field of radio access networks, and more particularly without limitation to radio access networks supporting multiple telecommunication standards. *See* Specification, page 1. The concise description of the claimed subject matter of the present invention is set forth below, with regard to each of the respective independent claims 1 and 7-9. Each of the following discussions includes references to various portions of the present application to aid in the understanding of the invention. However, such reference, unless otherwise indicated, is intended to point out the described exemplary embodiment; it is not intended to limit the scope of the claims to only the express embodiment cited below.

Some mobile devices have the capability of moving among different types of wireless communication networks, such as between a WLAN network (e.g., Bluetooth or IEEE 802.11) and a mobile telecommunications network, such as one based on a mobile telephone communication protocol (e.g., CMTS or cellular mobile telephone system, GSM or Global System for Mobile communications, PCS or Personal Communications Services, or UMTS or Universal Mobile Telecommunications System).

For example, a mobile device (e.g., laptop computer or PDA) includes communications interfaces (e.g., communications hardware and software) that allow the mobile device to communicate with two (or more) different types of wireless networks. Typically, when the mobile device moves to access a different type of wireless network, the current communication session with the current wireless network terminates, and the mobile device establishes a new communication session (new communication) with the newly accessed wireless network. *See* Specification, pages 2 and 3.

Independent claim 1 is directed to a telecommunication method comprising the steps of receiving of a required quality of service parameter set from a core network by a radio network controller (*see* FIG. 2, step 200, and Specification, page 7, 2nd full paragraph), selecting a sub-set of air interfaces from a set of air interfaces, the sub-set containing air interfaces which support the required quality of service parameter set (*see* FIG. 2, step 204, and Specification, page 7, 2nd full paragraph), providing the sub-set to a node of a radio access network having the set of air interfaces (*see* FIG. 2, step 206, and Specification, page 7, 2nd full paragraph), and selecting an air interface from the sub-set by the node for providing the required quality of service to a user equipment (*see* FIG. 2, step 208, and Specification, page 7, 3rd full paragraph).

Independent claim 7 is directed to a computer-readable medium comprising instructions for performing the operations of inputting of a required quality of service parameter set which has been received from a core network by a radio network controller (*see* FIG. 2, step 200, and Specification, page 7, 2nd full paragraph), selecting a sub-set of air interfaces from a set of air interfaces (*see* FIG. 2, step 204, and Specification, page 7, 2nd full paragraph), the sub-set containing air-interfaces which support the required quality of service parameter set, and outputting the sub-set for providing the sub-set to a node of a radio access network having the set of air interfaces (*see* FIG. 2, step 206, and Specification, page 7, 2nd full paragraph) for selection of an air interface from the sub-set by the node for providing the required quality of service to a user equipment (*see* FIG. 2, step 208, and Specification, page 7, 3rd full paragraph).

Independent claim 8 is directed to a radio network controller comprising means for receiving of a required quality of service parameter set from a core network (*see* FIG. 1, control pane 108, and Specification, page 4, 4th full paragraph), means for selecting a sub-set of air

interfaces from a set of air interfaces (*see* FIG. 1, control pane 108, and Specification, page 4, 4th full paragraph), the sub-set containing air interfaces which support the required quality of service (*see* FIG. 1, list 114, and Specification, page 4, 4th full paragraph), and means for providing the sub-set to a node of the radio access network having the set of air interfaces (*see* FIG. 1, control pane 108, and Specification, page 4, 4th full paragraph).

Independent claim 9 is directed to a node of a radio access network having a set of air interfaces (*see* FIG. 1, set 120, and Specification, page 5, 2nd full paragraph), the node comprising means for receiving a sub-set of air interfaces from a radio network controller of the radio access network (*see* FIG. 1, MxMAC unit 132, and Specification, page 6, 2nd full paragraph), and means for selecting of an air interface from the sub-set for providing the required quality of service to a user equipment (*see* FIG. 1, MxMAC unit 132, and Specification, page 6, 2nd full paragraph), the means for selecting of the air interface being adapted to perform the selection based on load balancing and/or current availability of the air interfaces of the sub-set (*see* FIG. 1, MxMAC unit 132, and Specification, page 6, 2nd full paragraph).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

(A) Rejection of claims 1-4, 7-10, 11-13 and 15 under 35 U.S.C. 103(a) as being unpatentable over Wood and further in view of Hsu.

(B) Rejection of claims 5, 6 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Wood in view of Hsu, and further in view of Kallio.

VII. ARGUMENT

(A) Rejection of claims 1-4, 7-10, 11-13 and 15 under 35 U.S.C. 103(a) as being unpatentable over Wood and further in view of Hsu

Appellant submits that Wood fails to disclose or suggest all of the required features of independent claim 1, and Hsu clearly fails to cure the deficiency of Wood. Moreover, the combination of Wood and Hsu also fails to disclose or suggest all of the required features of independent claim 1.

Independent claim 1 recites, in part:

selecting a sub-set of air interfaces from a set of air interfaces,
the sub-set containing air interfaces, which support the required
quality of service parameter set,
providing the sub-set to a node of a radio access network
having the set of air interfaces,
selecting an air interface from the sub-set by the node for
providing the required quality of service to a user equipment.

Wood, by contrast, is directed to:

selecting an air interface with [sic] takes into account the
capabilities of the subscriber and the particular system side
transceiver with which it desires to communicate[.]¹

and further discloses:

A compatible air interface, or list of compatible air interfaces
is generated by the controller and provided to the base. The base will

¹ See Wood, col. 1, lines 46-49.

then direct the subscriber to access the communication system
utilizing a compatible air interface.²

Thus, a single interface or a list of interfaces is selected and provided to the base. In either case,
however, only one selection occurs in Wood.

Nevertheless, the Examiner asserts:

Wood teaches selecting an air interface from a list of air
interfaces; since there is no quantity requirement for a sub-set set
forth in the claim language, therefore, it is to interpret sub-set of
interfaces in this case is one interface.

Appellant respectfully disagrees with the Examiner's position.

Appellant agrees that Wood discloses selecting an air interface from a list of air interfaces.
However, even assuming, *arguendo*, that the claimed "sub-set" of interfaces in this case corresponds
to one interface as the Examiner contends, Wood only discloses making one selecting operation, i.e.,
selecting an air interface from a list of air interfaces. Thus, Wood fails to disclose or suggest more
than one selecting operation, as the claimed invention, by contrast, requires. That is, since the
claimed invention requires (1) selecting a sub-set of air interfaces from a set of air interfaces, and (2)
selecting an air interface from the sub-set, Appellant submits that the claimed invention requires two
selecting operations. Wood, however, only discloses making one selecting operation, i.e., selecting
an air interface from a list of air interfaces. Therefore, Wood fails to disclose or suggest two
selecting operations, i.e., selecting a sub-set from a set of air interfaces, and then selecting an air
interface from the sub-set, as claimed. As such, Appellant respectfully submits that Wood fails to
disclose or suggest all of the required features of independent claim 1.

² See Wood, col. 1, lines 56-61.

Moreover, since Wood only discloses that the subscriber sends a list of its air interfaces and the base station forwards the subscriber's list of air interfaces attaching its own air interfaces, there is no selecting of a sub-set of air interfaces from a set of air interfaces. On the contrary, both the subscriber and the base station in Wood send all of their air interfaces.³ Since all of the air interfaces are sent in Wood, Appellant submits that Wood does not disclose or suggest selecting of a sub-set of air interfaces from a set of air interfaces, as the claimed invention sets forth.

Further, as pointed out above, independent claim 1 also requires providing the sub-set to a node of a radio access network having the set of air interfaces, and then selecting an air interface from the sub-set by the node for providing the required quality of service to a user equipment. In other words, the sub-set is provided to a node, and the node then selects an air interface from the sub-set.

Wood, on the other hand, discloses that the controller 45 selects an air interface.⁴ In Wood, there is only one entity, *i.e.*, the controller, making a selection of an air interface. Wood fails to disclose or suggest one entity, such as a controller, selecting a sub-set of air interfaces and another entity, such as a node of a RAN, selecting one air interface from the sub-set. Furthermore, in Wood, there is no providing of the selected sub-set of air interfaces to a node of RAN. Wood merely discloses the controller providing one selected interface to the base station. Indeed, Wood is completely silent with regard to a node of the RAN.

³ See *e.g.*, Wood, col. 2, lines 58-68 (a base station may reject a selection made by the controller if it is not available).

⁴ See Wood, col. 2, lines 37-39.

In summary, Appellant submits that Wood fails to disclose or suggest all of the required features of independent claim 1, and Hsu clearly fails to cure the deficiency of Wood. Moreover, the combination of Wood and Hsu also fails to disclose or suggest all of the required features of claim 1.

Additionally, Appellant notes that the claimed invention recites a “required quality of service.”⁵ The Examiner concedes that Wood fails to disclose this unique feature. However, the Examiner asserts that Hsu cures this deficiency of Wood, and states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wood to include the requirement of maintaining the level of quality of service as taught by Hsu in order to have resources better allocated at respective nodes to give better service. Appellant respectfully disagrees with the Examiner’s position.

Hsu discloses a service subscription register 32 which stores data related to a quality of service purchased by a subscriber as part of a service subscription of a mobile station.⁶ That is, the quality of service provided to a user in Hsu is only related to whether the user has purchased a subscription. Wood, on the other hand, is directed to matching interfaces which are compatible based on different air interface standards, e.g., TDMA, CDMA, etc.⁷ Thus, the matching of interfaces in Wood is completely unrelated to providing interfaces based on a required quality of service.

Indeed, if one were to modify Wood in view of Hsu, as the Examiner suggests, the result would render the operability of Wood unsatisfactory for its intended purpose, i.e., matching

⁵ See e.g., claims 7-9.

⁶ See Hsu, col. 6, lines 18-22.

⁷ See Wood, col. 1, lines 14-43.

interfaces based on compatibility of air interface standards. Moreover, Appellant notes that Wood is directed to providing a complete listing of compatible interfaces based on air interface capabilities.⁸ Thus, such a limiting modification would destroy the principle of operation of Wood, since the listing of compatible air interfaces would be incomplete if the listing of interfaces were filtered based on a required quality of service. As such, Appellant submits that the disclosures of the cited references are not sufficient to render the claims *prima facie* obvious. *In re Ratti*, 270 F.2d 810 (CCPA 1959). In fact, the only suggestion of such a modification appears in Appellant's own disclosure. Consequently, Appellant submits the Examiner's conclusion of obviousness is based on improper hindsight reasoning. Hence, one of ordinary skill in the art at the time the invention was made would not have been motivated to modify Wood in view of Hsu as the Examiner contends.

Accordingly, Appellant submits that independent claim 1 is patentable over the applied references, at least for the reasons noted above. Similarly, Appellant submits that independent claims 7-9 are also patentable over the applied references for reasons analogous to those stated above. Further, Appellant submits that dependent claims 2-4, 11-13 and 15 are also patentable over the applied references, at least by virtue of their respective dependency on independent claims 1 and 10.

(B) Rejection of claims 5, 6 and 14 under 35 U.S.C. § 103(a) as being unpatentable over Wood in view of Hsu, and further in view of Kallio

⁸ See Wood, col. 1, lines 45-61.

Appellant respectfully submits that Kallio does not make up for the above-noted deficiencies of Wood and Hsu. Accordingly, Appellant respectfully submits that claims 5, 6 and 14 should be allowable over the cited references at least by virtue of their dependency on independent claim 1.

Unless a check is submitted herewith for the fee required under 37 C.F.R. §41.37(a) and 1.17(c), please charge said fee to Deposit Account No. 19-4880.

APPEAL BRIEF UNDER 37 C.F.R. § 41.37
Application Serial No. 10/699,687

Q78089

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

/Kelly G. Hyndman 39,234/
Kelly G. Hyndman
Registration No. 39,234

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE

23373

CUSTOMER NUMBER

Date: April 13, 2007

CLAIMS APPENDIX

CLAIMS 1-15 ON APPEAL:

1. A telecommunication method comprising the steps of:

receiving of a required quality of service parameter set from a core network by a radio network controller,

selecting a sub-set of air interfaces from a set of air interfaces, the sub-set containing air interfaces, which support the required quality of service parameter set,

providing the sub-set to a node of a radio access network having the set of air interfaces,

selecting an air interface from the sub-set by the node for providing the required quality of service to a user equipment.

2. The method of claim 1, further comprising receiving of a monitoring list by the radio network controller, the monitoring list containing the set of air interfaces by means of which the node can actually establish a telecommunication link with the user equipment.

3. The method of claim 1, further comprising the steps of:

receiving of data being indicative of at least one of the air interfaces of the set of air interfaces, the at least one interface having no more free data transmission capacity,

eliminating the at least one air interface from the sub-set.

4. The method of claim 1, whereby the selection of the air interface is performed by the node based on load balancing and / or actual availability of the air interfaces.

5. The method of claim 1, further comprising the steps of:

establishing a first telecommunication link by means of the selected one of the set of air interfaces and sending of data frames having a first data frame format of the selected air interface,

mapping of the first data frame format to a second data frame format of an alternative one of the set of air interfaces,

replacing of the selected air interface by the alternative interface and sending of the mapped data frames having the second air interface format via a second telecommunication link which has been established by means of the alternative air interface.

6. The method of claim 5, the selected air interface being an UMTS air interface and the first air interface format being HSDPA, the alternative air interface being WLAN and the second air interface format being WLAN frames.

7. A computer-readable medium comprising instructions for performing the operations of:

inputting of a required quality of service parameter set which has been received from a core network by a radio network controller,

selecting a sub-set of air interfaces from a set of air interfaces, the sub-set containing air-interfaces which support the required quality of service parameter set,

outputting the sub-set for providing the sub-set to a node of a radio access network having the set of air interfaces for selection of an air interface from the sub-set by the node for providing the required quality of service to a user equipment.

8. A radio network controller of a radio access network comprising:
means for receiving of a required quality of service parameter set from a core network,
means for selecting a sub-set of air interfaces from a set of air interfaces, the sub-set containing air interfaces which support the required quality of service,
means for providing the sub-set to a node of the radio access network having the set of air interfaces.

9. A node of a radio access network having a set of air interfaces, the node comprising:
means for receiving a sub-set of air interfaces from a radio network controller of the radio access network,
means for selecting of an air interface from the sub-set for providing the required quality of service to a user equipment, the means for selecting of the air interface being adapted to perform the selection based on load balancing and / or current availability of the air interfaces of the sub-set.

10. A telecommunication system comprising a radio network controller having means for receiving of a required quality of service parameter set from a core network, means for selecting a sub-set of air interfaces from a set of air interfaces, the sub-set containing air interfaces which support the required quality of service, and means for providing the sub-set to a node of the radio access network having the set of air interfaces, said system further comprising a node of claim 9, the node being coupled to the radio network controller.

11. The telecommunication method according to claim 1, further comprising:
storing said set of air interfaces by the radio network controller;
selecting by the radio network controller the sub-set of air interfaces from said set of air interfaces by referencing a list comprising air interfaces and corresponding quality of service parameters, wherein the list is stored in the radio network controller; and
providing by the radio network controller to the node the selected sub-set of air interfaces.

12. The telecommunication method according to claim 11, further comprising storing, by the node, medium access control components corresponding to respective air interfaces available at the node, wherein said node selects the air interface and maps the selected air interface to a corresponding medium access control component.

13. The telecommunication method according to claim 12, further comprising changing by the node the selected air-interface to another air interface, wherein said another air interface is

selected by the node from the provided sub-set of air interfaces without communicating with the radio network controller.

14. The telecommunication method according to claim 1, further comprising the node changing the selected air interface to another air interface selected on the fly from the provided sub-set of air interfaces, wherein said changing further comprises remapping data of the user equipment from a current physical layer to a different physical layer.

15. The telecommunication method according to claim 1, wherein the sub-set of air interfaces comprises at least two air interfaces.

EVIDENCE APPENDIX:

There has been no evidence submitted pursuant to 37 C.F.R. §§ 1.130, 1.131, or 1.132 or any other similar evidence.

RELATED PROCEEDINGS APPENDIX

There are no related proceedings